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10/586,249

07/17/2006

Reinhold Wein

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EXAMINER

HE, AMY

ART UNIT

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2831

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/586,249 | Applicant(s) WEIN ET AL. | |
| | Examiner AMY HE | Art Unit 2831 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/17/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of the following:
 - 1) It contains legal phrase “comprising”. Replace the phrase with --includes--;
 - 2) Reference numerals should not be used in the abstract.Corrections are required. See MPEP § 608.01(b).
2. The disclosure is objected to because the specification should not refer back to a specific claim number, since the claim number is subject to change during the prosecution of the instant application. Appropriate correction is required.

Claim Objections

3. Claims 9 and 12-16 are objected to because of the following informalities:
 - 1) In claims 9 and 16, the use of "and/or" is objected to because it is unclear whether “and” or “or” is claimed.
 - 2) In claims 12-16, add “further” before “comprising”, so as to clearly indicate that the limitations are in addition to the earlier claimed limitations.
 - 3) In claim 15, it is unclear what is the “parameterizable intervals” (on line 5).Appropriate corrections are required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 9 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 9, the phrase "such as" (on lines 4 and 6) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding claim 17, it appears that only a preamble is claimed, i.e., an electronic moisture sensor for use in a measuring or control device. The body of the claim is missing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 5, 8-11 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Tamai (U. S. Pub. No. 2004/0036484).

As for claim 1, Tamai discloses (in Figure 6 and 14) an electronic measuring or control device (1) for watering plants, characterized by comprising

at least one electronic moisture sensor (50; 50a-50c) based on a moisture-sensitive capacitor (C) for measuring the moisture of the soil, having a dielectric (55) whose dielectric constant changes when moisture penetrates into it.

As for claim 5, Tamai discloses the measuring or control device according to claim 1 wherein the capacitor (C) of the moisture sensor is implemented as a plate capacitor having two capacitor plates (52 and 56) and a dielectric (55) arranged between them accessible to moisture.

As for claim 8, Tamai discloses the measuring or control device according to claim 1, wherein the moisture-based signal of the moisture sensor can preferably be measured and evaluated by means of microprocessor-based electronics (31).

As for claim 9, Tamai discloses the measuring or control device according to claim 8, wherein it is provided with an interface (40) for transmission of individual plant specific parameters, such as especially watering data, to the electronic and/or for readout of statistical data such as watering times.

As for claim 10, Tamai discloses the measuring or control device according to claim 8, wherein a display (22) for visual representation of the measured values can be activated by means of the electronics (31) in accordance with the individual plant-specific parameters.

As for claim 11, Tamai discloses the measuring or control device according to claim 8, wherein threshold values for the visualization of a watering need or cessation of watering can be set in the electronics (31) by means of a variable or fixed resistance circuit ([0102]) .

As for claim 17, Tamai discloses an electronic moisture sensor (50; 50a-50c) especially for use in a measuring or control device (1) for watering of plants according to the characterizing portion of at least claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai (U. S. Pub. No. 2004/0036484) in view of Williams (U. S. Patent No. 4, 173,019).

As for claim 2, Tamai discloses the measuring or control device according to claim 1, comprising a moisture-releasing and absorbing dielectric (55).

Tamai does not specifically disclose that the dielectric is in the form of a glass fiber mat.

Williams discloses using a glass fiber mat as a dielectric material, for the advantage of reducing the cost of the dielectric material used in the application (col. 8, lines 32-35).

A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Tamai to use a glass fiber mat as the dielectric, as taught by Williams, for the purpose of reducing the cost of the moisture sensor (col. 8, lines 32-35).

7. Claim 3, 4, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai (U. S. Pub. No. 2004/0036484) in view of Del Giudice et al. (FR 2687787).

As for claims 3, 4, 6 and 7, Tamai discloses that the dielectric (55) is accessible to moisture via openings (56a) in at least one of the capacitor terminals (56).

Tamai does not specifically disclose that the capacitor (C) of the moisture sensor has an outer tube-like capacitor terminal and an inner capacitor terminal of round cross section, between which the dielectric is arranged accessible from outside to moisture; and that the capacitor terminals are formed by a thin aluminum foil; and that the moisture sensor, for ease of insertion into a root ball of a plant, is provided with a sharpening.

Del Giudice et al. discloses (in Figure 1 and abstract) a capacitive moisture sensor having an outer tube-like capacitor terminal (1) and an inner capacitor terminal (2) of round cross section, between which a dielectric (3) is arranged accessible from outside to moisture; and that the capacitor terminals are formed by a thin metal; and that the moisture sensor is provided with a sharpening (see Figure 1 and the abstract).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Tamai to disclose that the capacitor of the moisture sensor has an outer tube-like capacitor terminal and an inner capacitor terminal of round cross section, between which the dielectric is arranged accessible from outside to moisture, and that the capacitor terminals are formed by a thin metal, such as a thin

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aluminum foil, and that the moisture sensor is provided with a sharpening, as taught by Del Giudice et al. for the purpose of easily and quickly measure the moisture level of the soil by utilizing the moisture sensor with the metal cylinders and the sharpening, and for reducing the cost of manufacturing the moisture sensor by using thin aluminum foil for the capacitor terminals.

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai (U. S. Pub. No. 2004/0036484) in view of Mauney (U. S. patent No. 5, 675,932).

As for claims 12-16, Tamai discloses the measuring or control device as in claims 1 and 8. Tamai does not specifically disclose a temperature sensor for measuring the ambient temperature; an integrated watering valve that can be activated by the electronics for watering of the plant; a water reservoir for supplying the watering valve, the fill level of the water reservoir being monitorable by the electronics by means of a fill-level sensor; and a liquid-fertilizer reservoir and an integrated fertilizer valve supplied by it that can be activated by the electronics in parameterized intervals; and a PH sensor for measuring the PH of the plant soil of the plant being monitored by the measuring and control device.

Mauney discloses a temperature sensor (thermostat, col. 8, line 66) for measuring the ambient temperature; an integrated watering valve (sprinklers 76, col. 6, line 53) that can be activated by an electronics (90) for watering of the plant; a water reservoir (80, col. 7, line 25) for supplying the watering valve, the fill level of the water reservoir being monitorable by the electronics by means of a fill-level sensor (water level

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sensor, col. 8, lines 46-47); and a liquid-fertilizer reservoir (liquid nutrient solution 82 contained reservoir tank system 80) and an integrated fertilizer valve (76) supplied by it that can be activated by the electronics (90) in parameterized intervals; and a PH sensor (PH sensor/control100, col. 8, line 2) for measuring the PH of the plant soil of the plant being monitored by the measuring and control device (see abstract; and col. 7, line 25-col. 8, line 67).

A person of ordinary skill in the art would find it obvious at the time the invention was made to modify Tamai to incorporate the use of a temperature sensor for measuring the ambient temperature; an integrated watering valve that can be activated by the electronics for watering of the plant; a water reservoir for supplying the watering valve, the fill level of the water reservoir being monitorable by the electronics by means of a fill-level sensor; and a liquid-fertilizer reservoir and an integrated fertilizer valve supplied by it that can be activated by the electronics in parameterized intervals; and a PH sensor for measuring the PH of the plant soil of the plant being monitored by the measuring and control device, as taught by Mauney, for the purpose of automating the process of supplying water or fertilizer to the plant, and for electronically controlling the growth parameters of the plant so as to maximize the growth profiles of the plants(see abstract of Mauney).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMY HE whose telephone number is (571)272-2230. The examiner can normally be reached on 9:30am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amy He/
Examiner
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